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COURSE 2, TUTORIAL 13

UNITED STATES DEPARTMENT OF AGRICULTURE (USDA)

The U.S. Department Department of Agriculture's mission is to provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues. USDA is a granting institution and annually funds Small Business Innovation Research or SBIR initiatives aligned with its Strategic Plan and other guiding documents including USDA's Research, Education, and Economics Action Plan and the National Institute of Food and Agriculture or NIFA's Strategic Plan.

TOPIC AREAS

Topic areas typically found in USDA's SBIR solicitation include: Biofuels and Biobased Products; Food, Science, and Nutrition; Plant Production and Protection – Biology; Small and Mid-Size Farms; Forests and Related Resources; Aquaculture; Rural and Community Development; Animal Production and Protection; Air, Water, and Soils; Plant Production and Protection - Engineering.

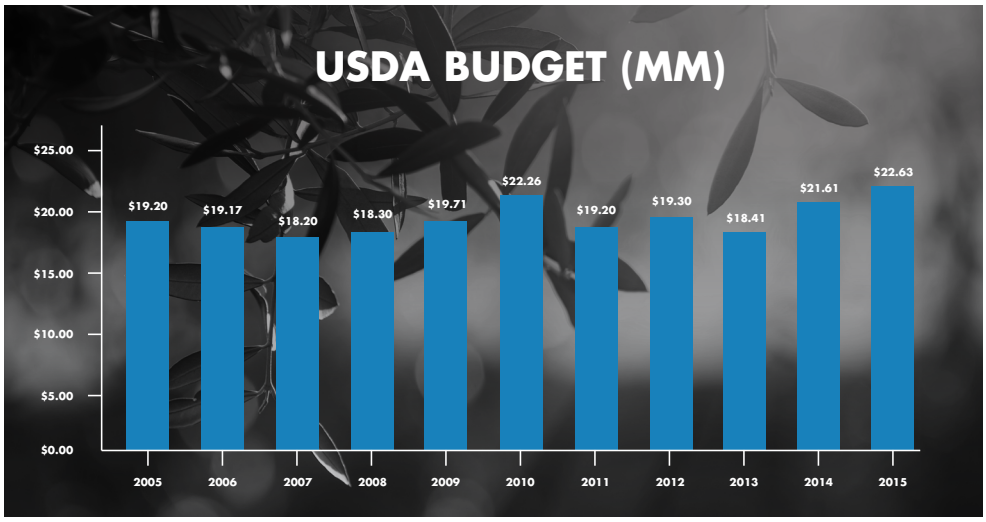
The USDA SBIR program office also recognizes two cross-cutting priorities with relevance to all topic areas. The two cross-cut programs are (1) Agriculturally-related Manufacturing Technology and (2) Energy Efficiency and Alternative and Renewable Energy. Potential applicants are encouraged to call or email The National Program Leader (NPL) associated with each topic area identified in the solicitation to discuss any questions they may have.

Ideas for responsive proposals are "investigator initiated" which means that the specific problem and approach are generated by the principal investigator or PI. Nonetheless, the proposals must still relate to the topic areas identified in the solicitation that in turn are aligned with USDA's mission.

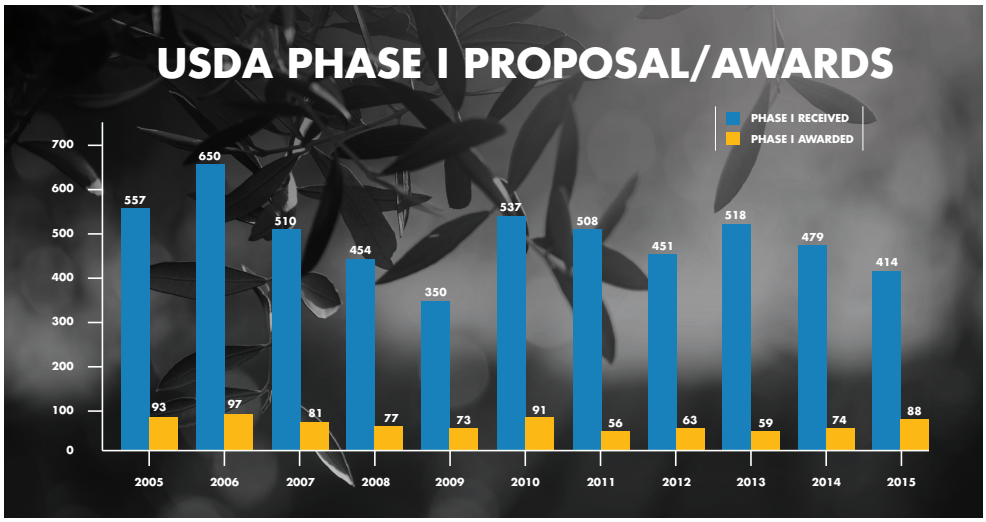
USDA has two unique topic areas: Rural and Community Development and Small and Mid-Size Farms. Through these two topic areas USDA encourages proposals that utilize both new and existing innovations in order to address important economic and social development issues. Applications in response to Rural and Community Development topics don't need to be centered on agriculture, but may focus on any area that has the potential to provide significant benefits to rural Americans. Applications in response to the Small and Mid-Size Farms often focus on increasing profitability and efficiencies within farming operations.

USDA PHASE I AND PHASE II AWARDS

Phase I awards are for up to $100,000 for 8 months of concept development. The ceiling on Phase II has increased from $500,000 to $600,000 for two years of development work. The accompanying graphic shows the changes in the USDA SBIR budget between 2005 and 2015, as well as the number of Phase I proposals received and the number of awards made. The geographic distribution of USDA awards is represented in



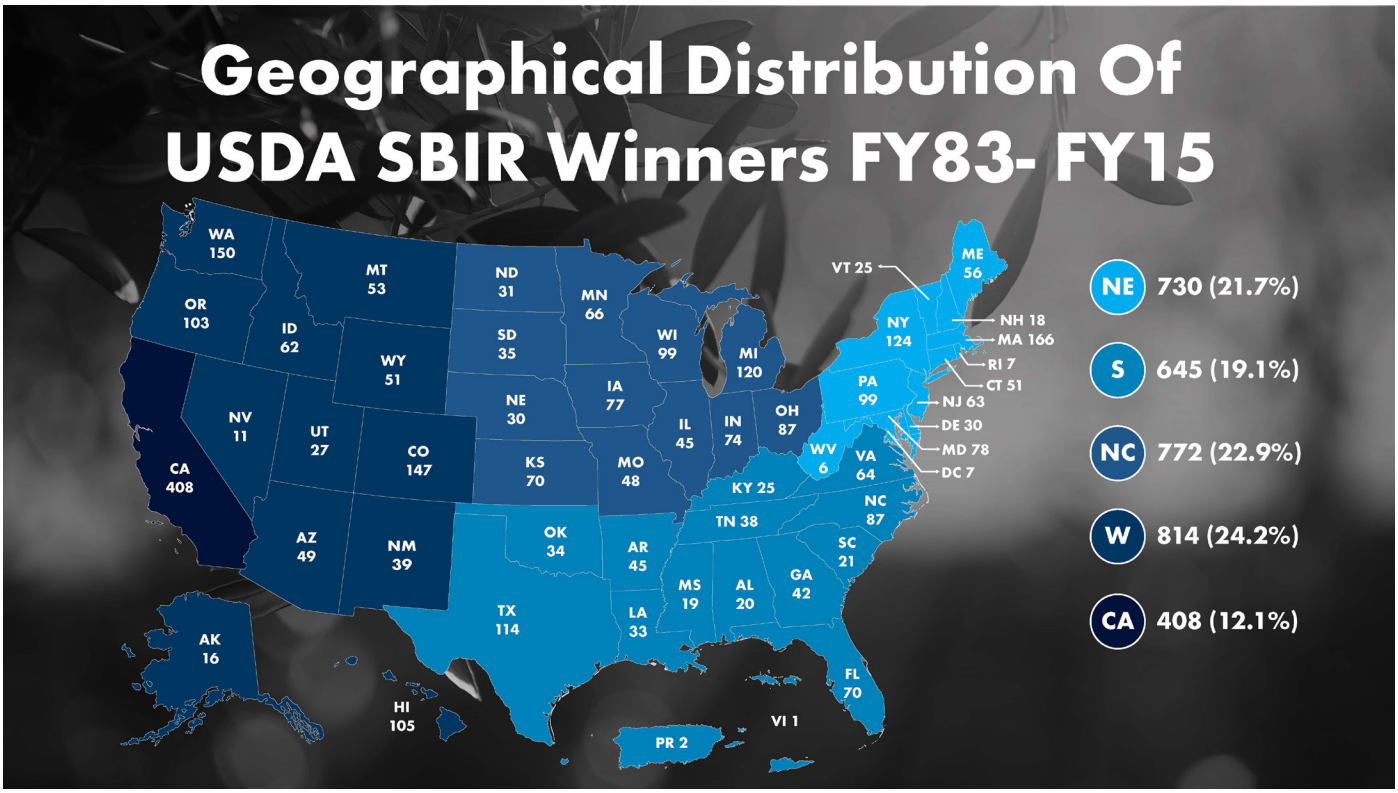
USDA budget 2005-2015



USDA Phase I proposals received and awards made

the accompanying map. California being a large agricultural state accounts for 12.1% of the USDA SBIR awards made between 1983 and 2015. From a regional perspective, during this same period the Western region received 24.2% of the awards; the North East – 21.7%; North Central states – 22.9% and the South 19.1%.

In addition to supporting scientific research and development, another USDA program goal is to provide incentives and opportunities for small business concerns (SBC) to convert USDA-sponsored research into technological innovations in the private sector. To that end, all proposed research should have some potential commercial application as a goal. Commercial success for USDA technologies come in diverse forms. For example, **Whole Trees LLC** provides timber and truss assemblies and provides an economic incentive for the sustainable management of forests while providing a renewable alternative to the use of concrete and steel in the building construction industry. **Altaeros Energies** developed a Buoyant Airborne Turbine or BAT, a floating wind turbine designed to serve rural communities, far-flung villages, and military bases with a constant source of electricity - thus reducing reliance on diesel generators. The high altitude floating wind turbine is helium filled with a wind turbine suspended inside. The BAT can float higher than the height of any land based turbine at an altitude where winds are far stronger and have a constant velocity. Finally the **Nitrate Elimination Company** which has developed a test kit to help agricultural producers manage nitrate concentrations, reduce costly nitrogen fertilizer applications, and protect the environment from pollution. The Nitrate test kit is under evaluation to be the standard for all nitrate testing under the Clean Water Act. In order to increase the likelihood that companies are success-



Geographic distribution of USDA SBIR winners FY83-FY15

ful in commercializing their USDA-sponsored innovations, the agency also provides a Commercialization Assistance Program for both Phase I and Phase II awardees.

USDA SOLICITATIONS

So how does one get started with participating in the USDA SBIR program? The Department of Agriculture has one topic release per year, typically in July with proposals due about 12 weeks later in early October. Proposals are submitted through grants.gov and as with other agencies participating in the SBIR programs require that you secure a DUNS number, register with the System for Award Management (SAM), register with Grants.gov and the Small Business Administration's SBIR registry. To assist with the proposal preparation process, USDA has developed a document entitled "A Guide for Preparation and Submission of NIFA Applications" available via Grants.gov. This is a useful document and serious applicants are highly encouraged to download and review this file in combination with the solicitation.

A confidential peer review system is used to evaluate the applications. Separate review panels are held that correspond to each of the topic areas. Reviewers are typically drawn from universities, government, and non-profit organizations. Following the evaluation process, all applicants receive verbatim copies of the reviews minus the names of the reviewers. On average about 14% of USDA SBIR applicants win a Phase I award. Phase I applicants that were not selected for award are able to reapply for Phase I funding during the next solicitation cycle. However, Phase II applicants are only able to apply one time.

COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS

USDA strongly encourages university and government scientist involvement with proposals. In the event that two or more applications are of approximately equal merit, the existence of a cooperative research and development agreement (CRADA) with a USDA laboratory or a license to USDA technology are important considerations. A list of available technologies for licensing and CRADAs that may be considered as projects under the SBIR program can be found at the USDA's Office of Technology Transfer (OTT) website.

To learn more about USDA's proposal preparation process, please consult the webinars available on USDA's website. Other tutorials available on the SBA.gov website provide guidance on proposal evaluation criteria and demos on how to register with the various sites mentioned.